

I Claim:

- 1 1. A method for training a plurality of line drivers in a communication system; each
2 respective line driver of said plurality of line drivers being coupled with at least one
3 respective communication line at at least one respective connection locus; each said at
4 least one respective communication line being configured for communicating with
5 respective subscriber equipment at a respective subscriber locus distal from said
6 respective connection locus using at least one selected communication tone-set of a
7 plurality of communication tone-sets; the method comprising the steps of:
 - 8 (a) selecting a test line driver from said plurality of line drivers;
 - 9 (b) selecting a first said respective communication line coupled with said test line
10 driver as a test line;
 - 11 (c) establishing synchrony with said respective subscriber equipment on said test line;
 - 12 (d) choosing a respective said at least one selected communication tone-set;
 - 13 (e) applying a test signal to said test line using said respective at least one selected
14 communication tone-set;
 - 15 (f) determining noise experienced on said test line using said test signal;
 - 16 (g) effecting evaluation of quality of said test line using said test signal; said quality
17 of said test line using said test signal being acceptable when said noise
18 experienced on said test line plus a noise margin is within a predetermined value
19 range;
 - 20 (h) when said quality is not acceptable, selecting another respective said at least one
21 selected communication tone-set and repeating steps (e) through (g);
 - 22 (i) when said quality is acceptable, designating said respective at least one selected
23 communication tone-set for operational employment by said test line;
 - 24 (j) repeating steps (b) through (i) until a set of communication lines of said at least
25 one respective communication line coupled with said test line driver has been
26 evaluated; and
 - 27 (k) repeating steps (a) through (j) until a set of line drivers of said plurality of line
28 drivers has been evaluated.

2. A method for training a plurality of line drivers in a communication system as recited in Claim 1 wherein said noise margin is predetermined based upon the number of communication lines included in said at least one communication line.

3. A method for training a plurality of line drivers in a communication system as recited in Claim 1 wherein said noise margin is predetermined based upon the total number of communication lines in said at least one communication line for all line drivers of said plurality of line drivers.

4. A method for training a plurality of line drivers in a communication system as recited in Claim 1 wherein said noise margin is dynamically determined for each iteration of method step (g).

5. A method for training a plurality of line drivers in a communication system as recited in Claim 4 wherein said noise margin is reset when said noise experienced on said test line degrades beyond a predetermined value for a predetermined time duration.

6. A method for training a line driver in a communication system; said line driver being coupled with at least one respective communication line at at least one respective connection locus; each said at least one respective communication line being configured for communicating with respective subscriber equipment at a respective subscriber locus distal from said respective connection locus using at least one selected communication tone-set of a plurality of communication tone-sets; the method comprising the steps of:

(a) selecting a first said respective communication line coupled with said line driver as a test line;

(b) establishing synchrony with said respective subscriber equipment on said test line;

(c) choosing a respective said at least one selected communication tone-set;

(d) applying a test signal to said test line using said respective at least one selected communication tone-set;

- 14 (e) determining noise experienced on said test line using said test signal;
15 (f) effecting evaluation of quality of said test line using said test signal; said quality
16 of said test line using said test signal being acceptable when said noise
17 experienced on said test line plus a noise margin is within a predetermined value
18 range;
19 (g) when said quality is not acceptable, selecting another said selected communication
20 tone-set and repeating steps (d) through (f);
21 (h) when said quality is acceptable, designating said respective at least one selected
22 communication tone-set for operational employment by said test line; and
23 (i) repeating steps (a) through (h) until a set of communication lines of said at least
24 one respective communication line coupled with said test line driver has been
25 evaluated.

1 7. A method for training a line driver in a communication system as recited in Claim 6
2 wherein said noise margin is predetermined based upon the number of
3 communication lines included in said at least one communication line.

1 8. A method for training a line driver in a communication system as recited in Claim 6
2 wherein said noise margin is dynamically determined for each iteration of method
3 step (f).

1 9. A method for training a plurality of line drivers in a communication system as recited
2 in Claim 8 wherein said noise margin is reset when said noise experienced on said test
3 line degrades beyond a predetermined value for a predetermined time duration.

1 10. A method for achieving a desired signal-to-noise ratio for a plurality of
2 communication lines coupled with a plurality of line drivers in a communication
3 system; each respective line driver of said plurality of line drivers being coupled with
4 at least one respective communication line of said plurality of communication lines at
5 at least one respective connection locus; each said at least one respective

6 communication line being configured for communicating with respective subscriber
7 equipment at a respective subscriber locus distal from said respective connection
8 locus using at least one selected communication tone-set of a plurality of
9 communication tone-sets; the method comprising the steps of:
10 (a) selecting a test line driver from said plurality of line drivers;
11 (b) selecting a first said respective communication line coupled with said test line
12 driver as a test line;
13 (c) establishing synchrony with said respective subscriber equipment on said test line;
14 (d) choosing a respective said selected communication tone-set;
15 (e) applying a test signal to said test line using said respective selected
16 communication tone-set;
17 (f) determining noise experienced on said test line using said test signal;
18 (g) effecting evaluation of quality of said test line using said test signal; said quality
19 of said test line using said test signal being acceptable when said noise
20 experienced on said test line plus a noise margin is within a predetermined value
21 range of said signal-to-noise ratio;
22 (h) when said quality is not acceptable, selecting another said respective selected
23 communication tone-set and repeating steps (e) through (g);
24 (i) when said quality is acceptable, designating said selected communication tone-set
25 for operational employment by said test line;
26 (j) repeating steps (b) through (i) until a set of communication lines of said at least
27 one respective communication line coupled with said test line driver has been
28 evaluated; and
29 (k) repeating steps (a) through (j) until a set of line drivers of said plurality of line
30 drivers has been evaluated.

1 11. A method for achieving a desired signal-to-noise ratio for a plurality of
2 communication lines coupled with a plurality of line drivers in a communication
3 system as recited in Claim 11 wherein said noise margin is predetermined based upon
4 the number of communication lines included in said at least one communication line.

1 12. A method for achieving a desired signal-to-noise ratio for a plurality of
2 communication lines coupled with a plurality of line drivers in a communication
3 system as recited in Claim 11 wherein said noise margin is predetermined based upon
4 the total number of communication lines in said at least one communication line for
5 all line drivers of said plurality of line drivers.

1 13. A method for achieving a desired signal-to-noise ratio for a plurality of
2 communication lines coupled with a plurality of line drivers in a communication
3 system as recited in Claim 11 wherein said noise margin is dynamically determined
4 for each iteration of method step (g).

1 14. A method for achieving a desired signal-to-noise ratio for a plurality of
2 communication lines coupled with a plurality of line drivers in a communication
3 system as recited in Claim 13 wherein said noise margin is reset when said noise
4 experienced on said test line degrades beyond a predetermined value for a
5 predetermined time duration.

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